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**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Application Number: 08/793,416
Filing Date: October 23, 1997
Appellant(s): HARE, JOHN THOMAS

July 18, 2008

Howard Flaxman
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed 6/2/08 appealing from the Office action mailed 7/31/07.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

.(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

GB 954,594	WEINBERGER	04-1964
US 4,576,846	NOEL	03-1986
US 4,478,060	FRY ET AL.	05-1988

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9.1 Claims 20-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Weinberger (GB 954,594), and further in view of either of Noel (US 4,576,846) or Fry et al. (US 4,748,060). Weinberger discloses the applicant's claim limitation except for the slit being at an oblique angle relative to the radius of the shield body.

Weinberger teaches a shield for ionizing radiation including γ -rays, which is flexible and moldable in and of itself (see page 1, col. 1, line 33, and col. 2, line 60+). He further teaches that the shield may be shaped to parts of the human body and used, for example, for "leggings and the like" (see page 1, col. 1, lines 25+).

As to claims 20 and 21, Weinberger teaches a shield body including a core layer 10 comprising silicone rubber and particulate lead (e.g., see Fig. 1 and page 3, col. 1, lines 57+). Applicant's claim language reads on Weinberger as follows: a) "cured liquid silicone resin" reads on silicone rubber; b) "particulate γ radiation – shielding material" reads on lead, a notoriously known shielding material for γ -rays.

As to the limitation, "shield body being in the form of a cylindrical annulus including an inner face, an outer face and a longitudinal slit," note that when Weinberger's flexible shield (as shown in Fig. 1) is formed into a legging (to provide radiation shielding for a radiation worker's leg), the finished product inherently includes a cylindrical configuration with an annulus, an inner face and an outer face. Such cylindrical configuration cannot be prevented if the Weinberger shield has to be formed and used as protection for a human leg against γ radiation.

As to the limitation, "slit extending from the inner surface to the outer surface at an oblique angle relative to the radius of the shield body and the slit is unsealed along its length", it is inherent that the shield for a legging in Weinberger is unsealed along its length because otherwise it cannot be wrapped around a worker's leg.

Fry et al. teaches a flexible pipe (or cylinder) covering that has a slit or seam along its length and this seam is sealed with an adhesive (see col. 1, lines 5+).

Noel also teaches a flexible covering for a pipe or tube (or cylinder) with a "groove- tongue-slit closing system along the longitudinal axis" (see col. 2, line 33+). He further teaches that the slit can be "any desired shape, angular, round oval, etc." (see col. 3, lines 39+). He shows several slits that have a tortuous/serpentine paths extending from the inner surface to the outer surface (e.g., see Figs. 4-6, 19 and 20). Note from these tortuous/serpentine slit configurations offer a more rigid seal than a straight radial slit because they offer a larger area for adhesion of the seam/slit.

One having ordinary skill in the nuclear art would also have appreciated that the tortuous slit configuration taught by slit is advantageous for shielding purposes because

gamma rays would lose more energy when passing through an indirect, tortuous path than through a direct, straight path.

Both Weinberger (primary reference) and Fry et al. and Noel (secondary references) pertain to shields or coverings for cylindrical surfaces, which coverings have seams or slits that require to be sealed for proper operation. The secondary references are in an analogous art because they deal with the same problem as the primary reference, i.e., how to achieve a good sealing for the longitudinal slit.

Note in this regard that it has been held that a prior art reference must either be in the field of applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the appellant was concerned, in order to be relied upon as a basis for rejection of the claimed invention. See *In re Oetiker*, 977 F.2d 1443, 24 USPQ2d 1443 (Fed. Cir. 1992).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the apparatus, as disclosed by Weinberger, by the teaching of Noel, to include a slit extending from the inner surface to the outer surface at an oblique angle relative to the radius of the shield body, to gain the advantages thereof (i.e., better sealing and better shielding property), because such modification is no more than the use of a well known expedient within the nuclear art.

As to the claimed "oblique angle" for the slit, note that any one of Figs. 4-6, 19 and 20 in Noel shows this configuration. If applicant is of a different opinion, note that this claimed configuration is even simpler than the more complicated configurations taught by Noel. Since Noel teaches that the slit can be of any desired shape, a person

of ordinary skill has good reason to pursue the known option (i.e., of a slit with an oblique angle relative to the radius) within his or her technical grasp. If this leads to the anticipated success, it is likely the product not of innovation but of ordinary skill and common sense.

As to Fry et al., their slit can likewise be modified by the teaching in Noel, prior to its use to modify Weinberger.

The claims are replete with statements that are either essentially method limitations or statements of intended or desired use. For example, "for a source of gamma rays" (see preamble), "to receive the source", "may be selectively opened along the slit ...", "to permit closing thereof facilitating the passage ...", "adapted to surround a radiation source ..."etc. These clauses, as well as other statements of intended use do not serve to patently distinguish the claimed structure over that of the reference, as long as the structure of the cited references is capable of performing the intended use. See MPEP 2111-2115.

See also MPEP 2114 that states:

A claim containing a "recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus" if the prior art apparatus teaches all the structural limitations of the claim. Ex parte Masham, 2 USPQ2d 1647.

Claims directed to apparatus must be distinguished from the prior art in terms of structure rather than function. In re Danly, 263 F.2d 844, 847, 120 USPQ 528, 531.

[A]pparatus claims cover what a device is, not what a device does." Hewlett-Packard Co. v. Bausch & Lomb Inc., 15 USPQ2d 1525,1528.

As set forth in MPEP 2115, a recitation in a claim to the material or article worked upon does not serve to limit an apparatus claim.

The flexible shield in the cited reference is capable of being used in the same manner and for the intended or desired use as the claimed invention. Note that it is sufficient to show that said capability exists, which is the case for the cited reference.

Note further that the term "adapted to" means "made to conform" or "caused to conform" to an item, an object or a structure. Appellant has not defined the shape of the so-called source of γ -rays, and absent such definition, the examiner interprets the term broadly and reads it on a point source or a line source. Clearly, the cited cylindrical Weinberger shield can surround a point/line source located inside the cavity and provide protection to personnel who may be in the vicinity of said source.

As to claims 22, 23 and 24, applicant's claim language "solid polymeric material" reads on the combination of fabric 12,14 and adhesive 16, 18 of silicone rubber (i.e., polydimethylsiloxane) and fiber flock (see page 3, col. 2, lines 71+ and page 2, col. 1, lines 36+).

As to claim 25, note from the figures (e.g., Fig. 1) that the outer layers of Weinberger's shield is about half the thickness of the core layer, which has a thickness of 1mm-1.5mm. (While patent drawings are not drawn to scale, relationships clearly shown in the drawings of a reference patent cannot be disregarded in determining the patentability of the claims. See In re Mraz, 59 CCPA 866, 455 F.2d 1069, 173 USPQ 25 (1972).)

Thus, the outer layers in Weinberger would have a thickness of between 0.5mm-0.75 mm, which meets the claim limitation. Note in this regard, MPEP 2131.03, which states:

"[W]hen, as by a recitation of ranges or otherwise, a claim covers several compositions, the claim is 'anticipated' if one of them is in the prior art." *Titanium Metals Corp. v. Banner*; 778 F.2d 775, 227 USPQ 773.

As to claim 26, Weinberger states relative to his Fig. 1:

"The barrier layers 10, as pointed out above, may advantageously be in the vicinity of between 1 millimeter and 1 ½ millimeters in thickness though it is to be understood, of course that any desired thickness may be employed." Underlining provided. See sentence bridging page 3 col. 2 and page 4, col. 1.

Clearly, it would have been intuitively obvious to one of ordinary skill in the art at the time of the claimed invention to have modified the core layer of Weinberger's shield to the claimed thickness, where such is required for a specific application of the shield that requires said thickness to meet either design requirements and/or regulatory requirements on radiation exposures of workers.

(10) Response to Argument

Appellant argues that one would not look to Noel, which teaches a covering for a pipe/conduit, for a teaching to modify Weinberger, which is concerned with protecting human beings. To further support his argument, appellant further argues that "while conduits are commonly well defined, rigid structures, the human body is constantly changing and moving with diverse body parts." The examiner disagrees.

First, as stated in the previous section above, Weinberger and Noel are in analogous art because they are both concerned with sealing the longitudinal slit/seam of coverings/shield having a cylindrical configuration. Thus, an artisan would be interested in Noel because the reference is concerned with solving a similar problem as in Weinberger.

Second, as to the argument that the human body is constantly changing, the legging shield in Weinberger that the examiner cited is applied to a radiation worker's leg. This shield is only used at work by the worker, and it is removed following completion of a specific job or at the end of the work day. During the time that the worker uses the legging shield, his/her leg does not constantly change, i.e., it remains substantially constant in size.

Third, note the following statement in the specification:

"For example, for protecting pipes, the shield may be in the form of a tube 2 (Figure 1) with a longitudinal slit 4 and which is made of resilient material, can be opened along the slit so that it can be pushed over a length of pipe and then closed over the pipe, e.g., by the use of quick-locking plastic straps (not shown) of well known kind such as used as ties in horticulture." See page 6, last paragraph of the specification.

If an artisan would be motivated to look for teaching is an art that deals with fruits, vegetables, flowers or ornamental plants (i.e., horticulture art), he/she would at least be motivated to search for teaching in an art dealing with pipes and conduits, as in Noel.

As to appellant's argument against Fry et al. the examiner has indicated in the previous section how this reference should be applied to properly modify Weinberger. In any case, Fry et al. may not be needed to support the examiner's position because Noel alone is adequate and sufficient.

Appellant further argues that neither Noel or Fry et al. that their structure "could or would be applied to the manufacture of a 'legging' as desired by Weinberger. The examiner disagrees.

First, the teaching in Noel or Fry et al. that the examiner applied to modify Weinberger is on the problem of sealing the slit or seam and NOT on the manufacture

of a legging. Thus, appellant's argument is completely misplaced because the appellant has not shown that the references do not teach what the examiner has stated they teach, nor, has the appellant shown that the examiner's reasoning for and manner of combining the teachings of references is improper or invalid.

Second, the test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art, which is the case for the combination applied by the examiner. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981).

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

/Rick Palabrical, Ph.D.
Primary Examiner, Art Unit 3663

Conferees:

M. Petrvick /mcp/

J. Keith/jwk/